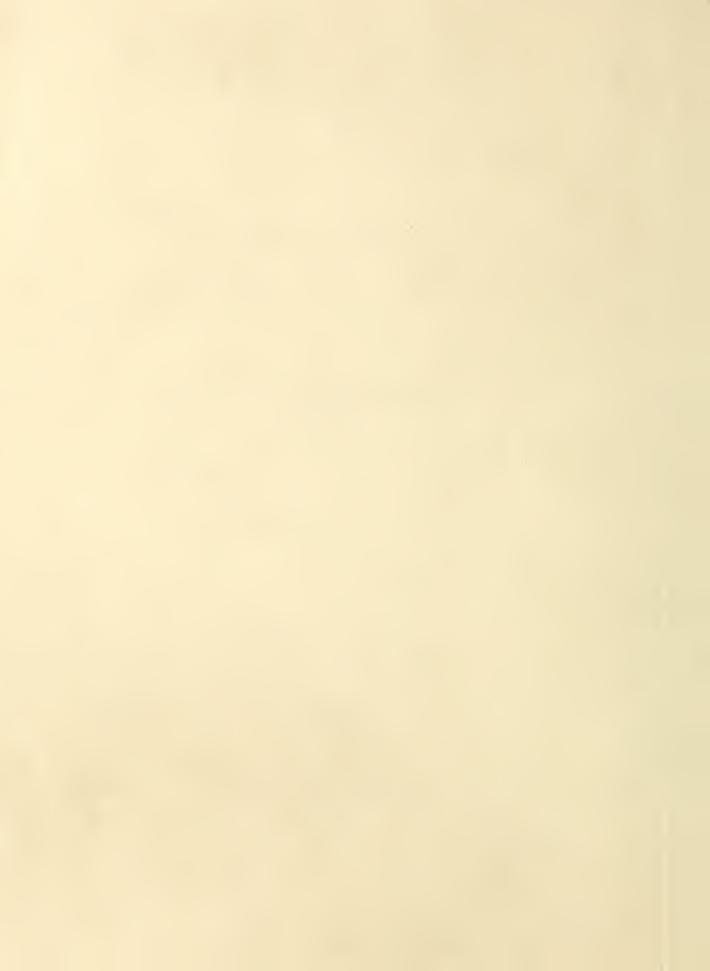
## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

## Rio Grande Drainage Basin

Division of Irrigation, Soil Conservation Service United States Department of Agriculture Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of APR. 1, 1951



## FEDERAL-STATE COOPERATIVE

## SNOW SURVEYS AND IRRIGATION

WATER SUPPLY FORECASTS

FOR

RIO GRANDE BASIN

Report Prepared

bу

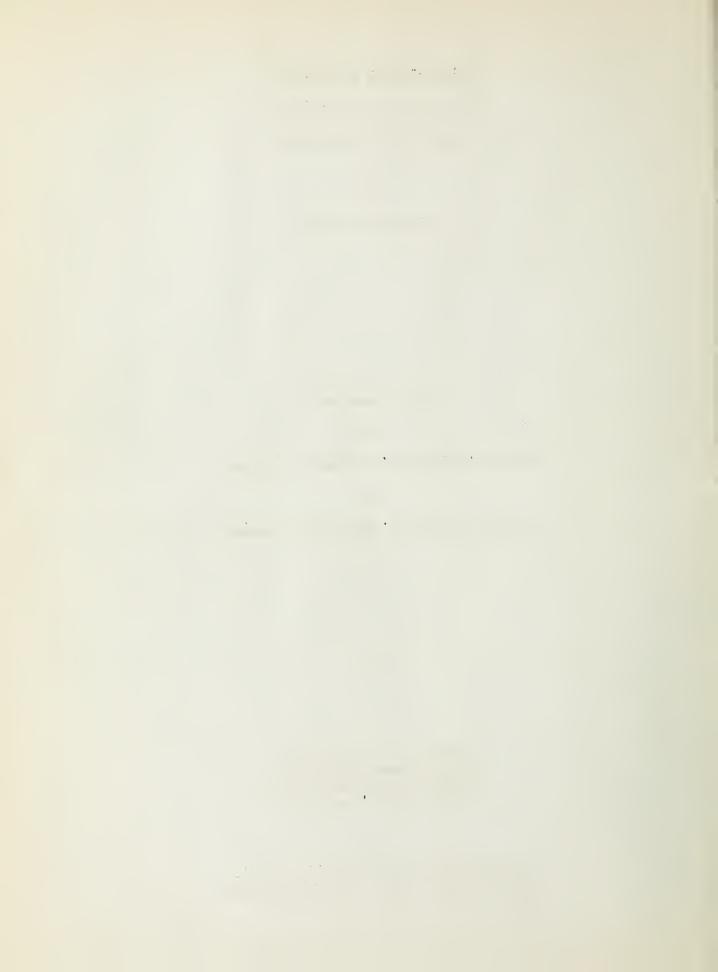
Homer J. Stockwell, Irrigation Engineer

and

Jack N. Washichek, Irrigation Engineer

Division of Irrigation Soil Conservation Service Colorado Experiment Station Fort Collins, Colorado

Miscellaneous Series Paper No. 487 Colorado Agricultural Experiment Station



## WATER SUPPLY OUTLOOK RIO GRANDE AND CAMADIAN DRAINAGE BASINS April 1, 1951

The water supply outlook for the Rio Grande and its tributaries is not favorable as of April 1. Snow cover along the Continental Divide is about 65 percent of normal. On the Sangre de Cristo range to the east of San Luis Valley the current snow cover is 50 percent of average. In northern New Mexico the snow fall has been extremely deficient with near minimum snow measurements on most courses for any April 1 since surveys were started in 1937. Precipitation has been deficient and soil moisture conditions are poor throughout the valley.

### RIO GRANDE

Seasonal snow accumulation to April 1 along the Continental Divide to the west of San Luis Valley is about 65 percent of normal. To the east of the valley along the Sangre de Cristo and Culebra ranges snow cover is about 50 percent of normal. There is no snow on the valley floor or in the foothills. The summer flow of the Rio Grande, Alamosa and Conejos rivers will be about 50 percent of normal. The soil in irrigated areas is dry due to deficient precipitation during the past several months. Storage in irrigation reservoirs is about 15 percent of April 1, 1950 and much below the past average.

On the headwaters of the Rio Chama the snow cover is about 50 percent of normal and similar to a year ago. Elsewhere in northern New Mexico the snow-fall has been very deficient with near minimum snow measurements on April 1. On the Rio Grande-Canadian Divide the snowfall has been slightly more than last year but much below the past average. Soil moisture conditions are described as poor in the middle Rio Grande area. Storage in El Vado Reservoir is now 5,100 acre-feet as compared to 22,000 acre-feet a year ago.

The combined storage in Elephant Butte and Caballo Reservoirs is now 405,000 acre-feet, about one-half of that stored on April 1, 1950. Soil moisture in the lower Rio Grande valley is reported as fair. Streamflow is well below normal.

There is practically no snow on the headwaters of the Pecos near Santa Fe. Storage in the Carlsbad project reservoirs is over 100,000 acre-feet, slightly less than last year but well above the past ten year average.

The general water supply outlook for the Rio Grande drainage is critically unfavorable at this time. A series of dry years has depleted reservoir storage and very little summer runoff may be expected from the current snow cover. An extreme curtailment of water use, especially in New Mexico, appears inevitable.

### CANADIAN DRAINAGE

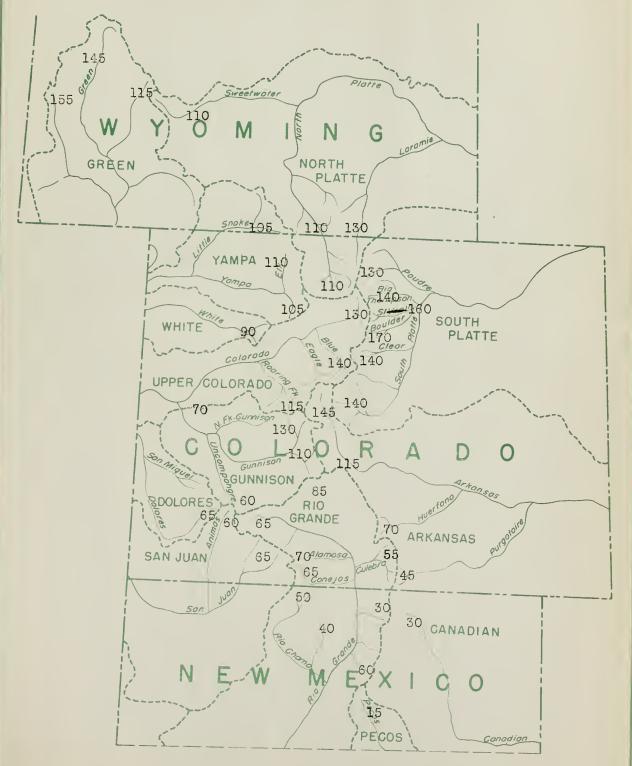
There is very little snow on Canadian River tributaries. Soil moisture conditions are reported as fair in the Tucumcari project. Storage in Conchas reservoir is now 281,000 acre-feet as compared to 308,000 acre-feet a year ago.

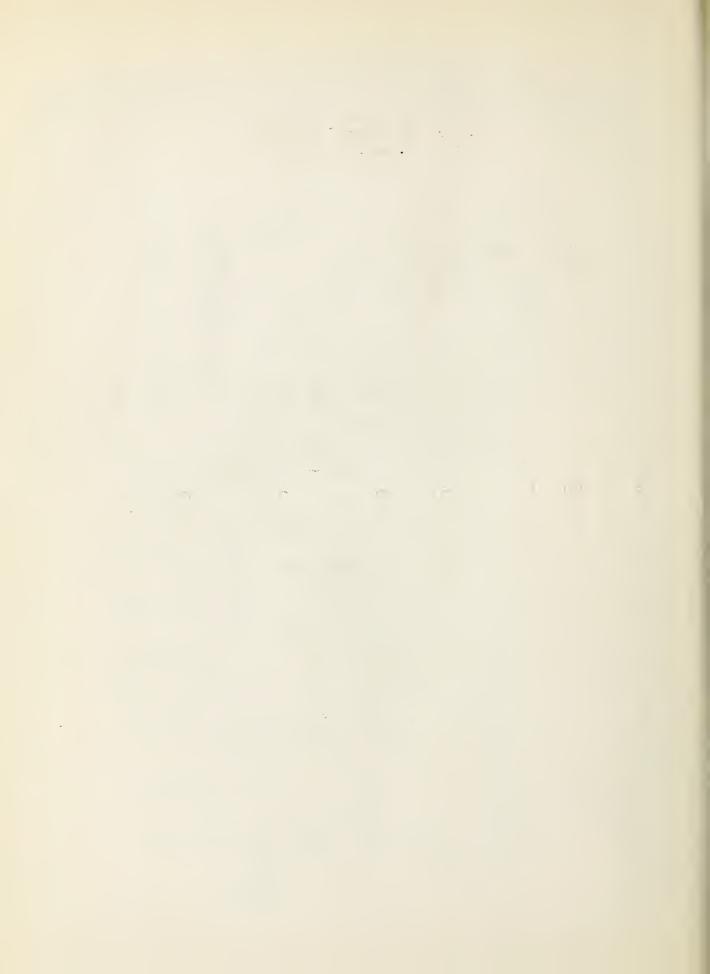
A TOTAL TOTA

(w) 1

WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH In Percent of Normal

In Percent of Normal April 1, 1951



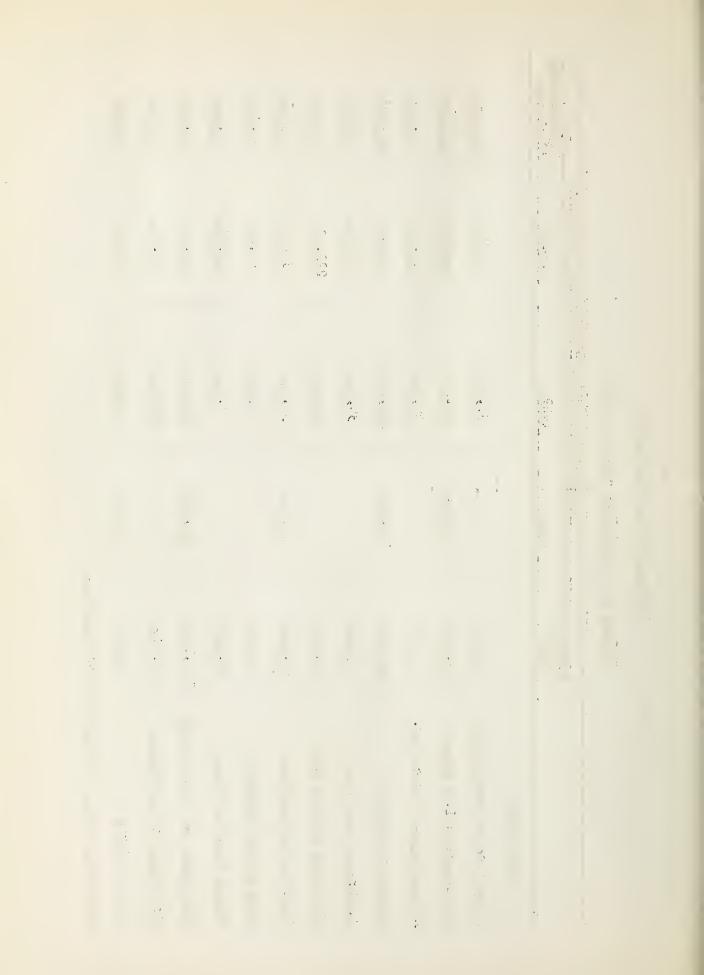


RIO GRANDE DRAINAGE BASINS

STREAM FLOW FORECASTS, April 1, 1951

		April-Se	April-Sept., Incl., Streamflow, Acre Feet	low. Acre Feet	
	Forecast 1951	1950	1949	1948	10-year Avg.
RIO GRANDE					
South Fork at South Fork	000,006		197,000	192,000	142,000
Rio Grande at Del Norte	325,000	397,000	832,000	823,000	000*709
Alamosa above Terrace Res.	7,000		105,000	100,000	81,000
Conejos at Mogote	000,041	148,000	268,000	262,000	224,000
Culebra at San Luis	15,000		35,000	36,000	37,000
Rio Chama at Park View	000,011		320,000	222,000	232,000
Costilla at Costilla	15,000	048,41	33,000	35,000	39,000
Taos at Los Cordovas	10,000		28,000	29,600	45,000
Embudo Creek at Dixon	20,000		53,000	000,59	000,59
Rio Grande at Otowi Bridge	175,000*	267,000	000,846	987,000	915,000
Rio Grande at San Marcial	£0°000*		852,000	727,000	240,000
Pecos at Pecos	20,000	12,880	000,67	70,000	73,000
	,				

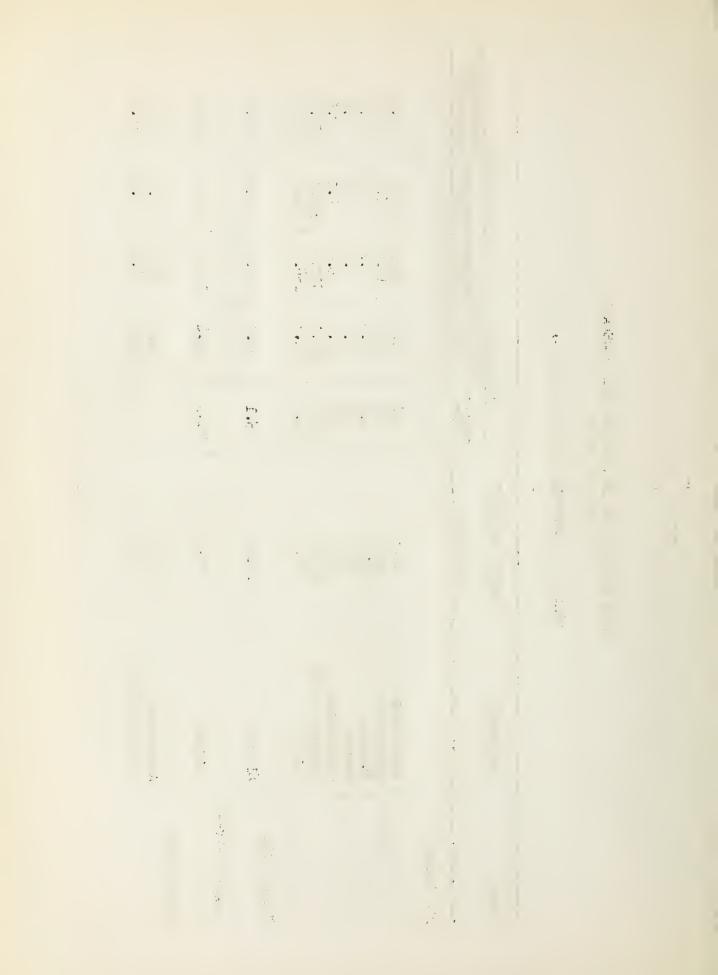
\*Including change in storage in El Vado Res,



SNOW SURVEYS AND IRRIGATION WATER FORECASTS RIO GRANDE BASIN

STATUS OF RESERVOIR STORAGE, APRIL 1, 1951

STREAM	RESERVOIR	USABIE CAPACITY	THOU	THOUSANDS OF ACRE FEST IN STORAGE About April 1 1   1950   1949   1948   1	ACRE FEST 11 1 1949	IN STORA	GE 10-year Ave. 1941-1950
RIO GRANDE							
	Rio Grande Santa Maria	51.3	2.5.1	30.6 22.9	19.5	24.2	19.0
	Sanchez Terrace	103.0	ั เกาะ เกาะ เกาะ เกาะ เกาะ เกาะ เกาะ เกาะ	113.0	8°5 8°5	6.0	3.9
	Continental Elephant Butte	26.7 2273.7	5.0	19.0	6.0	194.1	9.6 957.5
	Caballo	365.0	152.3	221.3	158.9	171.5	230.2
CHAMA RIVER	El Vado	226.0	5.1	22.0	19.0	26.8	52.1
CANADIAN RIVER	Conchas	0°009	281.3	308.4	306.5	371.0	301.5
PECOS RIVER	Alamogordo WcWillan-Avalon	118.0 15.0		102,7 14.0	32.7	35.6	56.2



# SNOW SURVEYS AND IRRIGATION WATER FORECASTS for RIO GRANDE BASIN April 1, 1951

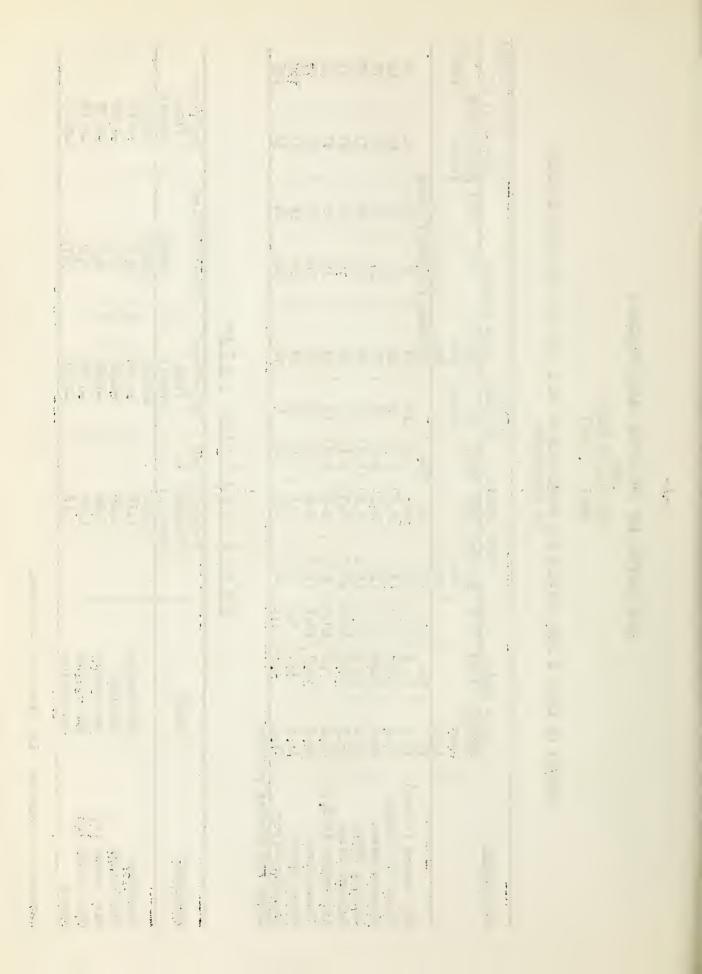
SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

							Minahor				1051 Water Contain	Contair
WATERSHEDS	Snow Depth	Depth		Water	Water Content		Courses	Snow Dengity	nsity		in percent of	t of
	Eleven	1950	1951	Eleven	1950 195	Н	ii	Eleven	1950	1951	Eleven Year	
	year	-		year		<del></del>	Average	year			AVE. *	1950
Z	Avg.*			Avg. *				表で写。				
	In.	In。	In	In。	In	H.		Percent	Percent	Percen	Ţ.	
Rio Grande (Colo.)	37.3	28,3	23,2	12.2	10,1	7.7	2	33	36	33	т9 —	92
Upper Rio Grande	41.4	36.5	27.5	13.9	13,5	8,2	m	34	37	8	59	79
Alamosa Fiver	43.6	31.0	27.7	13.4	1.5	0.6	2	33	37	35	29	78
Conejas River	15.8	1001	28,0	16.1	13.6	11,8	2	35	34	각	73	87
Culebra River	35.3	18.6	17.6	10.7	6.3	6.1	_	30	34	35	57	26
Rio Grande (N.M.)	22.4	9.5	10.8	7.5	3,2	2.8	n	33	34	56	37	88
Chama River	35.9	26.2	18,5	12.8	0.6	6.9	w	36	34	37	54	77
Pecos River	11.9	1.5	2.4	3.8	0.4	0.5	m	32	27	17	ដ	125
Canadian River	21.4	6.1	9.2	6.9	2,1	2,2	4	32	34	24	32	105
*Some for shorter periods	eriods					-					_	

## PRECIPITATION DATA\*

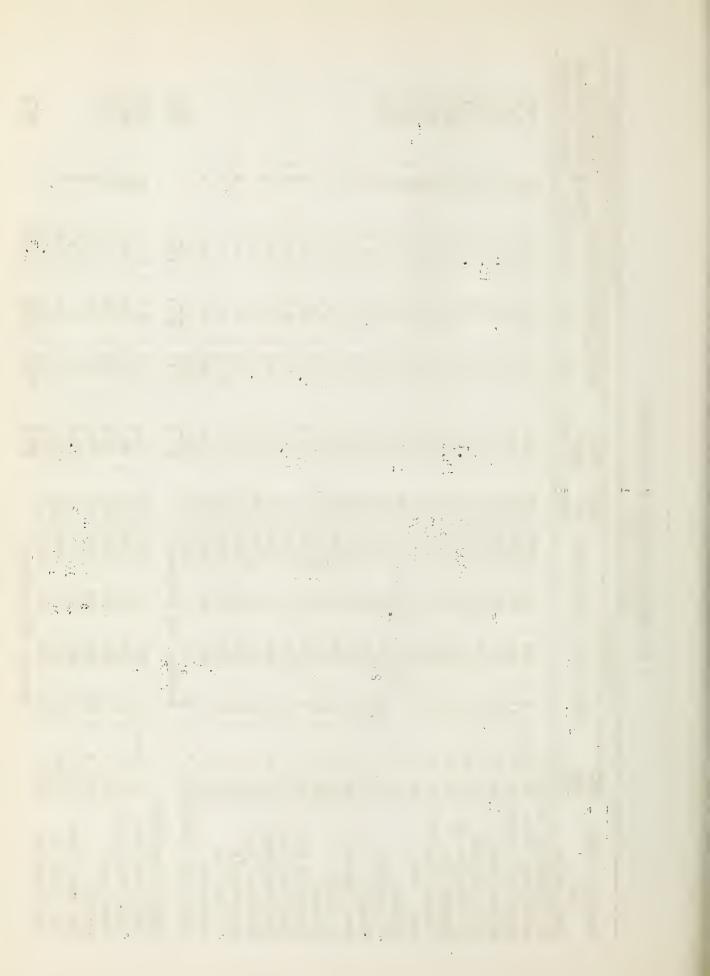
		Precipitation	Departure	Precipitation	Departure
WATERSHED	STATE	October 1 to	from	ı	from
		March 31	Normal	March	Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	1,78	-2,39	0.72	-0.18
Rio Grande	Colorado	०१ व	-h. 67	0.52	-1.06
Rio Grande (N)	New Mexico	2,60	-2.99	99.0	-0.42
Rio Grande (S)	New Wexico	1,30	16°۲۰	0°30	-0.18
Pecos	New Mexico	2.18	-2.14	₽2.0	-0.28

\*Average of Selected High Elevation Stations.



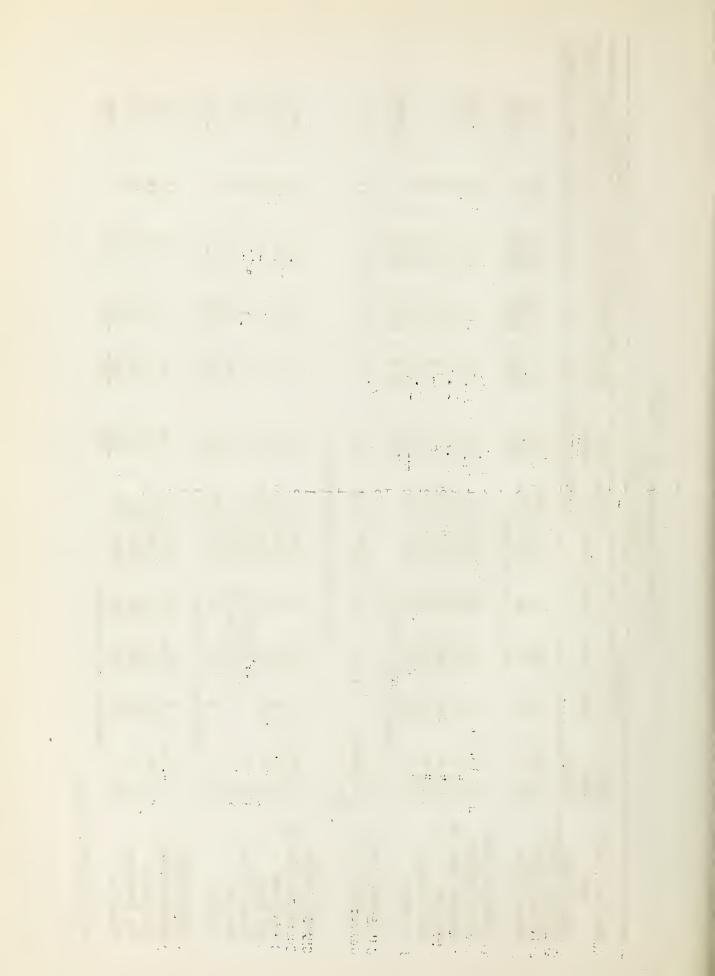
RIO GRANDE DRAINAGE SNOW SURVEYS
April 1, 1951

			Location	ď					63	now Cov	rer Meas	Snow Cover Measurements
Drainage Basin	No.					ω	Snow	Water	Content(	Inches)	Pa	Past Record
and	and	Dec.	Twp.	Range	Elev.	of	Depth				Yrs. of	of Av. Water Con-
Snow Course	State					Survey	(Inches)	1951	1950	1949	Rec.	tent (Inches)
NI		-				20/0		0		0	1	, , ,
Wolf Creek Pass	26 Colo.	7	371	된.	-	3/30	64.4	20°3	31.2	42.3	<b>1</b>	30.6
Upper Rio Grande	27 "	IJ.	NO.			[2]	12.5	χ,	6,2	6. 11.	15	2.9
Silver Lakes	l47 "	7	36N	<u>万</u>		3/30	11.4	3,4	2.2	10,4	77	5,9
River Springs	n 64	25	33N	- E		17/2	13.7	0°7	7.0	10.6	77	7• և
La Veta Pass #2	74 "	22	285	701		1/2	20.1	<b>1</b> 0	1,2	9°h	7,	8.1
Summitville	u 92	30	37N	뙫		3/29	44.0	14.5	20,8	29°5	Ħ	20°8
Cumbres Pass #2	n 77	17	32N	死		1/2	12.2	19.5	20.1	22.7	15	24.7
Santa Maria	<b>2</b> 08	∞	NI)	2W		2/6	5,06	5,1	6,3	13,0	디	4.5
Culebra	82 #	ഹ	7.2N	105, 2W		3/30	17,6	6.1	6.3	13.0	Ħ	10.7
Ft. Garland	# <sup>†</sup> 18	ಚ	29N	72W	8200	3/31	0°47	7.0	000	1.9	Ħ	2,8
Platoro	108 "	22	36N	F		3/30	43.2	12,9	18.4	28,3	2	
West Conejos	109 "	25	35N	当		3/28	22,2	5.7	3.0	15.9	2	
La Manga	" 011	54	32N	囚		2/28	53.2	15,7	21.1	28.9	2	
Pyramid	122 "	56	NTH	5,4		1/2	24.6	<b>7.9</b>	7.6	17,2	2	
Spr. Creek Pass	133 "	7	I <sub>ZN</sub>	314		1/3	27,3	7.0	8.2	18.8	2	
Pool Table Mt,	124 "	19	NIT!	2 E		1/2	13.5	3.0	3,0	12° 4	2	
Lake Humphreys	125 n	32	NO7	当	9300	1/2	10,5	3,3	2,9	14,5	2	
Cochetopa Pass	126 "	12	LSN	3E		3/31	19.5	4.7	3.0	8,3	2	
Howardville	151 "	15	NT7	王	9800	3/30	29.3	0°6	1	i	ı	
Red Mt. Pass	153 n	13	L/2N	병		3/30	2 <b>١٠</b> ٥	29.1	I	;	1	
Porcupine 154	154 "	2	NT!	禹	10400	1/3	25.1	6°9	1	I	1	
Wolf Creek Summit	155 "	9	37N	- 三 三	11000	3/30	63.0	19,0	1	1	ı	
		Ave	Average for	drai	nage		23.2	7.4	1001	16,1		12,2
UPPER RIO GRANDE			_									
Wolf Creek Pass	26 Colo。	7	37N	2E	10000	3/30	η <b>•</b> η9	20.3	31.2	42.3	IJ	30.6
Upper Rio Grande	27 "	ដ	NOT	亭	9350		12,5	2,8	6,2	11.9	됬	6.7
Santa Maria	80 "	ω	N T	· 500	9700	[\f	5,6	1,6	3,1	9.6	12	<b>1</b>
Pyramid	122 #	56	LIN	悉	10300	17/2	54.6	6°7	<b>7.6</b>	17°2	2	
SproCreek Pass	123 "	2	L/2N	K	10900	1/3	27.3	7.0	8,2	18,8	~	
	124 "	19	NT	2E	10000	7/5	H.5.	3,0	3.0	12,4	~	
Lake Humphreys	125 "	35	NOT	二 月	9300	17/2	10,5	2007	2.9	14.5	2	ļ
		Ave	Average for	r drainage	nage		27.5	ಜ್ಞ	13.5	21°3		13.9



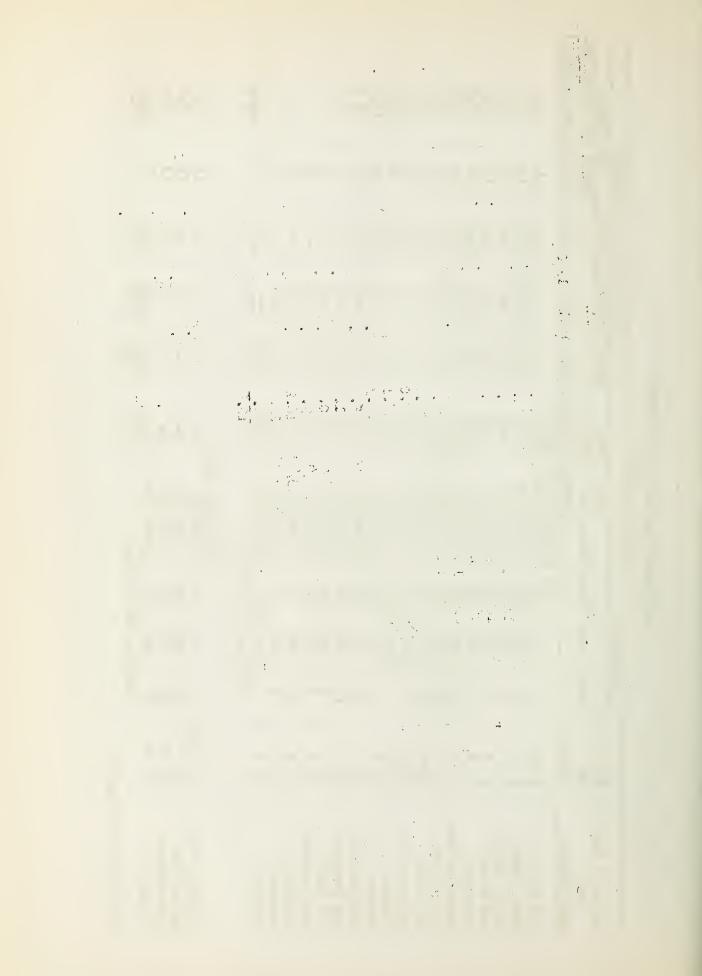
RIO GRANDE DRAINAGE SNOW SURVEYS
April 1, 1951

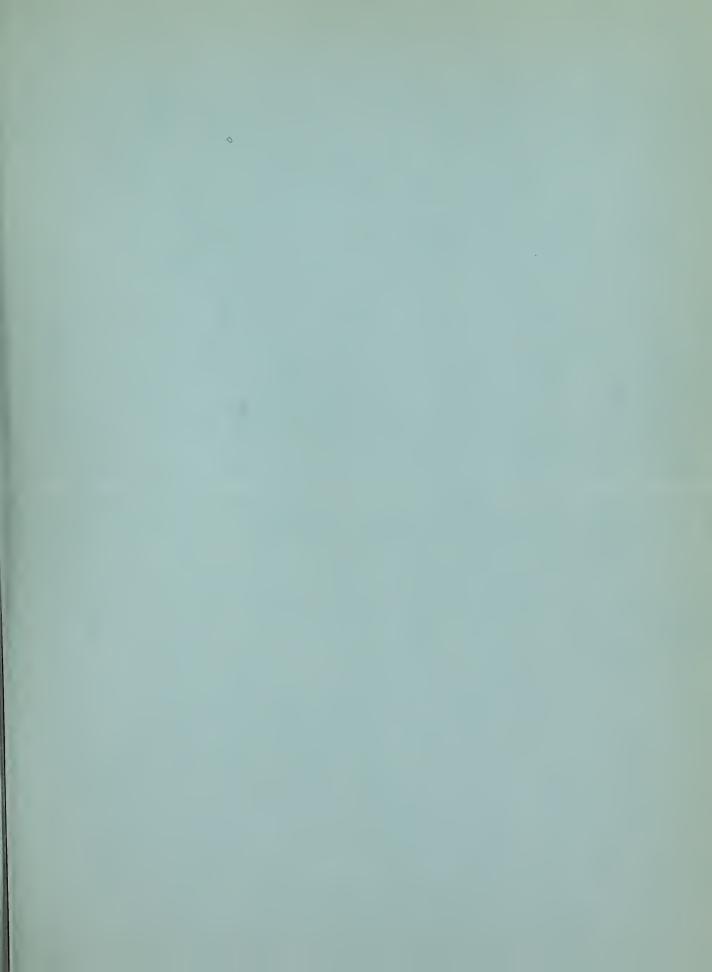
Sec. Twp. Fange Elev. of Depth Manage Survey (Inched) 1951  15 36N 5E 9600 3/30 11.44 3.4  25 33N 6E 9800 14/2 12.2 12.9  26 35N 14E 9950 3/30 11.45 11.8  27 37				-					Doggand
Sec. 1Wp, Hange Elev. of Depth   1951 1950 1949   Frs. of Av. Mater   Inc.   In	Sec. 15		Date	Snow	. E.	Content			
S   36N   5E   9600   3/29   11.4   3.4   2.2   10.4   14   5.9   13.0   3/29   144.6   14.5   20.8   29.5   11   20.8   20.8   29.5   11   20.8   20.8   20.5   12.8   20.8   20.5   13.1   20.8   20.8   20.8   20.5   20.8	30		Elev. of Survey	Depth (Inched)	1951	1950	1949	of	Av. Water Con- tent (Inches)
15   36N   5E   9600 3/39   11.4   3.4   2.2   10.4   114     30   37N   4E   11500 3/29   444.0   114.5   20.8   29.5   11     25   33N   6E   9300   4/2   13.7   4.0   7.0   10.6   114     25   35N   4E   9450 3/30   43.2   12.9   18.4   28.3   2   25   35N   4E   9450 3/30   43.2   12.9   18.4   3.0   15.9     25   35N   4E   9450 3/30   43.2   12.9   18.4   3.0   15.9     26   32N   5E   10100 3/28   53.2   15.7   11.8   13.6   11.8     37.21   105.2N   10000 3/30   17.6   6.1   6.3   13.0   11     28N   5E   10000 4/2   42.2   19.5   20.1   22.7   15     28N   05.7   7750 4/1   18.8   7.6   10.4   14.0   14.0     36.9N   106.77   7750 4/1   15.1   4.2   7.3   15.1     5   27N   65   9300 5/30 24.2   8.9   12.8   12.8     5   22N   15E   9500 4/1   15.1   18.5   6.9   0.0   0.0     5   22N   15E   9500 4/1   15.1   18.8   0.0   0.0   0.0     25   22N   13E   10100 3/29   8.3   1.0   0.0     37.2   12.3   13.5   10.100 3/20   1.0   0.0     5   22N   13E   10100 3/20   21.1   0.0   0.0     5   5   5   5   5   5   5   5   5	30								
25   37N   4E   11500   3/29   444.0   144.5   20.8   29.5   11     28   38   6E   9300   4/2   13.7   4.0   7.0   10.6   114     28   36   45   9950   3/30   43.2   12.9   18.4   28.3   2     29   35   4E   9450   3/28   30.6   5.4   3.0   15.9   2     20   35   4E   9450   3/28   53.2   15.7   21.1   28.9   2     37.21   105.2W   10000   3/30   17.6   6.1   6.3   13.0   11     38   28   7E   10000   4/2   42.2   19.5   20.1   22.7   15     36.9N   106.7W   8500   4/1   15.1   4.2   7.3   12.8   12.8     36.9N   106.7W   8500   4/1   15.1   4.2   7.3   15.1   1     28   28   15E   9500   4/1   15.1   4.2   7.3   15.1   1     28   28   15E   9500   4/1   5.5   0.6   0.0   0.6   2.4   14     28   28   15E   9500   4/1   5.5   0.6   0.0   0.6   2.4   14     29   22   22   13   13   9000   4/1   1.8   0.0   0.0   0.0     20   22   22   13   13   9000   4/1   1.8   0.0   0.0   0.0     20   22   22   13   13   9000   4/1   1.8   0.0   0.0   0.0     21   22   22   13   13   9000   4/1   1.8   0.0   0.0   0.0     20   22   22   13   10100   3/29   2.4   0.0   0.0   0.0     20   22   13   10100   3/29   2.4   0.0   0.0   0.0     20   20   20   20   20   20   20	<u></u>		9600 3/30	7.11	ر ا ا	2.2	10°7	77.	5,0
Colo. 25 33N 6E 9300 L/2 13.7 Lo. 0.0 10.6 11h  " 17 32N 5E 10000 L/2 L2.2 12.9 18.4 28.3 2  " 24 35N LE 9450 3/28 53.2 12.9 18.4 28.3 2  " 25 35N LE 9450 3/28 53.2 15.7 21.1 28.9 2  Colo. 37.21 105.2W 10000 3/30 17.6 6.1 6.3 13.0 11  Colo. 17 32N 5E 10000 L/2 L2.2 19.5 20.1 22.7 15  N.M. L 26N 6E 9500 L/1 18.8 7.6 10.4 14.0 11h.8 11  S 5 2N 106.7W 9500 L/1 15.1 0.0 0.0 8.5 11  Average for drainage		rage	11500/3/29 drainage	27.7	9.0	11.5	19.9	=======================================	13.4
Colo, 25 33N 6E 9300 4/2 13.7 4.0 7.0 10.6 14 18.1 22 36N 4W 4E 19.5 12.9 18.4 28.3 2 19.5 20.1 22.7 15 15 9 1 25 35N 4W 5E 10000 4/2 12.9 18.4 28.3 2 15.9 2 10.5									
## 17 32N 5E 10000 14/2 12.2 19.5 20.1 22.7 15 9 # 2 25 35N 14w 9950 3/30 143.2 12.9 18.4 28.3 2 2 3 3 3 5 N 14E 9450 3/28 30.6 5.4 3.0 15.9 21.0 15.9 18.4 28.3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Colo. 25			13.7	0,4	7.0	10.6	77	7.4
8 II         22         36N         4W         9950 3/30         43.2         12.9         18.04         28.3         2           9 II         25         35N         4E         9460 3/28         30.6         5.04         3.0         15.9         28.3         2           Average         for drainage         10100 3/28         30.6         17.6         6.1         6.3         13.0         11           Colo.         37.21         105.2W         10000 3/30         17.6         6.1         6.3         13.0         11           Colo.         17         Enoco L/2         4L.2         17.6         6.1         6.3         13.0         11           N.M.         L         26N         6E         9500 L/1         18.8         7.6         10.4         14.0	17		10000 4/2	42, 2	19.5	20°1	22.7	15	24.7
Colo.   25   35N   44E   9450   5726   53.2   15.7   21.1   28.9   2    Average for drainage   10100   3/28   53.2   11.8   13.6   15.7   105.7    Colo.   37.21   105.2W   10000   3/30   17.6   6.1   6.3   13.0   11    Colo.   17   32N   5E   10000   1/2   12.2   19.5   20.1   22.7   15    N.M.   4   26N   6E   9500   1/4   15.1   14.2   17.8   14.0   14.0    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0   2.1   14    N.M.   8   28N   15E   9500   1/4   15.1   18.8   0.3   0.6   5.2   9    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0   0.1    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0   0.0    Average for drainage   10100   1/2   1.8   1.0   0.0   0.0    Average for drainage   10100   1/2   1.0   0.0   0.0   0.0    Average for drainage   10100   1/2   1.0   0.0   0.0   0.0    Average for drainage   10100   1/2   1.0   0.0   0.0   0.0    Average for drainage   10100   1/2   1.0   0.0   0.0   0.0    Average for drainage   10100   1/2   0.0   0.0   0.0   0.0    Average for drainage   10100   1/2   0.0    Average for	222			43.2	12.9	1α°τ	200 r	~ (	
Average for drainage	56				7,04	ر د د د	28.9	v 0	
Colo.   37.2;   105.2w   10000   3/30   17.6   6.1   6.3   13.0   11    Colo.   17   32N   5E   10000   4/2   42.2   19.5   20.1   22.7   15    N.M.   16   26N   6E   9500   4/1   15.1   4.2   7.1   14.8   11    N.M.   8   28N   15E   9500   4/1   15.1   4.2   7.3   15.1   1    Average for drainage   9500   4/1   15.5   0.6   0.0   2.4   14    N.M.   8   22N   15E   9500   4/1   15.8   0.6   0.0   2.4   14    N.M.   8   22N   15E   9500   4/1   15.8   0.6   0.0   2.4   14    N.M.   8   22N   13E   9000   4/1   1.8   0.3   0.6   5.2   9    Average for drainage   10100   3/29   8.3   1.0   0.0   1.2    Average for drainage   10100   3/29   8.3   1.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0    Average for drainage   10100   3/29   8.3   1.0   0.0    Average for drainage   10100   3/29   8.3   1.0    Average for drainage   10100   3/29   8.3   1.0    Average for drainage   10100   1.2    Average for drainage   10100   1.0    Average for drainage   10	Average	drainage		28.0	11.8	13.6	16,7	1	16.1
Colo.   37.21   105.2W   10000   3/30   17.6   6.1   6.3   13.0   11    Colo.   17   32N   5E   10000   4/2   42.2   19.5   20.1   22.7   15    N.M.   16   28N   106.7W   8500   4/1   15.1   4.2   7.3   12.8    N.M.   8   28N   15E   9500   4/1   15.1   8.9   12.8    N.M.   8   28N   15E   9500   4/1   15.8    N.M.   8   28N   15E   9500   4/1   15.8    N.M.   8   22N   13E   9000   4/1   15.8    N.M.   8   22N   13E   9000   4/1   15.8    N.M.   8   22N   13E   9000   4/1   10.8    N.M.   8   22N   13E   10100   3/29   8.3    Average for drainage   10100   3/29    Average for drainage   10100   100    Average for drainage   1000   100		•							
Colo. 17 32N 5E 10000 4/2 42.2 19.5 20.1 22.7 15 N.M. 16 28N 7E 9700 3/29 16.3 3.4 7.1 14.8 11  Average for drainage  N.M. 8 28N 15E 9500 4/1 0.0 0.0 0.0 0.0 0.0 16.0  N.M. 8 22N 15E 9500 4/1 0.0 0.0 0.0 0.0 16.0  Average for drainage			10000 3/30	17.6	6.1	6.3	13.0	Ħ	10.7
Colo. 17 32N 5E 10000 4/2 42.2 19.5 20.1 22.7 15  N.M. 16 28N 7E 9500 4/1 18.8 7.1 14.8 11  Average for drainage  N.M. 25 22N 13E 9000 4/1 1.8 6.5 0.0  Average for drainage  Colo. 14.2 19.5 20.1 22.7 15  18.8 20.1 14.0 14.0 14.0 15.1 15.1 15.1 15.1 15.0 15.0 15.0 15		RIO GRA	NDE IN NEW MEN	001					
Colo. 17 32N 5E 10000 4/2 42.2 19.5 20.1 22.7 15  N.M. 16 26N 6E 9500 4/1 18.8 7.6 10.4 14.0 14.0  1 36.9N 106.77 7750 4/4 0.0 0.0 0.0 8.5 11  Average for drainage  N.M. 8 28 22N 13E 9000 4/1 1.8 0.0 0.0 0.0 0.0 2.4 14.0 14.0 14.0 15.1 14.8 14.0 14.0 15.1 14.0 15.1 14.0 15.1 14.0 15.1 14.0 15.1 14.0 15.1 14.0 15.1 15.1 14.0 15.1 15.1 14.0 15.1 15.1 14.0 15.0 14/1 16.0 0.0 0.0 0.0 0.0 17.0 14.0 15.0 14/1 15.0 0.0 0.0 0.0 17.0 14.0 15.0 14.0 15.0 14.0 15.0 14.0 15.0 14.0 15.0 14.0 15.0 14.0 15.0 14.0 15.0 15.0 14.0 15.0 14.0 15.0 15.0 14.0 15.0 15.0 14.0 15.0 15.0 14.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15					_				
N.M. 8   26N   6E   9500   4/1   18.8   7.6   10.4   14.0   14   14   14   14   14   14   14   1	Colos 17	2N SE		42,2	19.5	20,1	22.7	15	24.7
" 16 28N 7E 9700 3/29 16.3 3.4 7.1 14.8 11 " 36.9N 106.7W 8500 4/4 15.1 4.2 7.3 15.1 1  Average for drainage	N. M.	SN 6E	9500 4/1	18.8	2.6	10.4	14.0	77	17.4
" \$6.9N 106.7W 8500 4/4 0.0 0.0 0.0 8.5 11  Average for drainage	" 16	3N 7E	9700 3/29	16,3	3.4	7.1	14.8	7	2.6
" \$56.9N 106.7W 8500 4/4 15.1 4.2 7.3 15.1 1  Average for drainage	*	N 106, 7W	7750 4/4	000	0.0	0.0	8, 7,	Ħ	3.0
"         \$\mathbf{E}\$         \$720         \$ <b>6</b> \mathbf{E}\$         \$9300         \$ <b>5</b> \square\$         \$ <b>669</b> \$         \$ <b>126</b> \$         \$ <b>669</b> \$         \$ <b>126</b> \$         \$ <b>900</b> \$         \$ <b>110</b> \$         \$ <b>110</b> \$         \$ <b>1100</b> \$         \$ <b>110</b> \$         \$ <b>110</b> \$         \$ <b>10</b> \$         \$ <b>110</b> \$         \$ <b>1110</b> \$         \$ <b>1110</b> \$         \$ <b>1110</b> \$         \$ <b>110</b> \$         \$ <b>110</b> \$         \$ <b>1111110</b> \$         \$ <b>111111111110</b> \$         \$ <b>11</b> \	=	M 106.7W	8500 17/1	15.1	14,2	7.3	15.1	Н	9.2
Average for drainage   18.5   6.9   9.0   16.0   1.8   14   15.5   9500   4/1   5.5   0.6   0.0   2.4   14   14   15.2   22N   13E   9000   4/1   1.8   0.3   0.6   5.2   9   9   1.2   3   3   3   3   3   3   3   3   3	<b>=</b> ₽∀.	7N 6E	9300 5/30	24.2	8,9	12.8	-	Н	
N.M. 8 28N 15E 9500 4/1 0.0 0.0 0.6 1.8 14 14 15.5 0.6 0.0 2.4 14 14 15.5 0.6 0.0 2.4 14 14 15.5 0.6 0.0 0.0 2.4 14 14 15.5 0.6 0.0 0.0 2.4 14 14 15.5 0.6 0.0 0.0 1.2 3 4 15.0 10.0 3/29 8.3 1.0 0.0 1.2 3 4 15.0 0.5 0.5 0.5 0.5 3.1	Average for	drainage		18.5	6.9	0.6	16.0		12.8
N.M. 8 28N 15E 9500 4/1 0.0 0.0 0.6 1.8 14 " 25 24N 16E 9200 4/1 5.5 0.6 0.0 2.4 14 " 22 22N 13E 9000 4/1 1.8 0.3 0.6 5.2 9 "Average for drainage 2.4 5.7 0.6 5.2 9		_							
" 25 2\ln 1\text{18} 9200 \ln \ln \rm 1\text{1} \\ \text{1.8} \\ \text{0.0} \\ \text{0.0} \\ \text{1.1} \\ \text{1.8} \\ \text{0.0} \\ \text{0.0} \\ \text{1.1} \\ \text{1.8} \\ \text{0.0} \\ \text{0.0} \\ \text{1.2} \\ \text{3.1} \\ \text{1.2} \\ \text{3.1} \\ 3	N.M. 8		9500 4/1	0.0	0.0	9.0	8°.	77	3.5
" 22 22N 13E 10100 3/29 8.3 1.0 0.0 1.2 3 Average for drainage 2.4 0.5 0.4 3.1	# 25		1/1 0026	N N	9.0	0,0	2.4	14	2,1
# 22 22N 13E 10100 3/29 8.3 1.0 0.0 1.2 3 Average for drainage 2.4 0.5 0.4 3.1	n 23			2°8	ر 0°	9.0	2.2	0	5.7
for drainage 2.4 0.5 0.4 3.1	. 22	2N 13E		8,3	0,1	0	1.2	<u>~</u>	ļ
		drainage	_	2.4	0,5	0°7	3,1		3,8

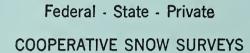


RIO GRANDE DRAINAGE SNOW SURVEYS April 1, 1951

			7		111111	-17-6-						
		7	Locarion	u					Show Cov	Snow Cover Measurements	rements	
Drainage Basin	No.					Date		Water Co	Content (	(Inches)	Past	Record
and	and	Sec	Twp	Range	Elev.	of	Depth				Yrs. of	Av. Water Con-
Snow Course	State					Survey	(Inches)	1951	1950	1949	record	tent (Inches)
				0	GRANDE	IN NEW	MEXICO					
Red River	1 N.M.	59	28N	15E	9500	3/29	14.4	2.4	ر بر	8.9	77	8.4
Taos Canyon	2 =	21	25N	123		3.30	14.3	2,5	2.8	3.7	12	7.2
Aspen Growe	<sup>†</sup>	12	18N	10E		- -	0.0	0.0	9.0	1,8	17	۳. در
Lee Ranch	s v	m	18N	当		- L/1	8,6	1,3	1.5	6.6	14	7.6
Canjilon	<b>2</b> 9	4	26N	<b>1</b> 3		1/1	18,8	7.6	10.4	140	177	17.h
Hematite Park*	n 6	ω	28N	15E	9500	1/1	10.5	2.5	000	5,7	17	5,3
Tres Titos	12 "	53	22N	13E		3/29	10.7	2.7	0.2	7,1	ដ	0
Pay Role	15 "	91	28N	<u>T</u>		3/29	16,3	3.4	7.1	14.8	H	2.6
Chama Divide	17 "		36.9N	106.7W		7/1	0.0	0.0	0.0	13,2	Ħ	3.5
Chamita	18 "		36.9N 1	106.7W		7/7	15.1	4.2	7.3	15.1	6	9.2
Cordova	19 #	22	22N	357	10100	3/20	29.3	9.2	7.8	14.2	. 6	12.6
Panchuela #2	20 m	27	19N	12E	8300	「 「	N.	9.0	0.0	2.4	17	2,1
Big Tesuque	27 "	17	18N	11E	100001	17	1,8	0,3	9.0	5.2	6	5.7
Elk Cabin	24 "	ω	18N	11E	8250	1/1	0.0	0.0	0.0	2.2	. m	
Rio En Medio	26 m	8	18N	11E	100701	1/1	9.2	2.6	2.2	ł	. ~	
Quemazon	28 m	34	20N	氏	9500	3/31	16.2	14.3	۵ د د	1	-	
Bateman	29 #	v	26N	E9	9300	3/30	24.2	8.9	12,8	1	<b>~</b>	
Costilla	30 "	1	37.0N	105.5	10000	3/27	0.0	0.0	1	;	1	
		Av	Average for	or d rait	nage		10.8	2.8	3.2	8.9		7.5
					CANADIAN	AN RIVE	<sub>E</sub>					
Hematite Park	9 N.M.	ω )	28N	15E	9500		10.5	25.	0.0	7.	14	<i>ب</i> ر الم
Ocate mesa	: OT	52	N+72	TOE	9200	1/1	p°9	1.5	٥٠,	æ m	<b>H</b>	3.6
Tres Ritos*	12 "	23	22N	13E	0006	3/29	10.7	2.7	0.2	7.1	ಬ	5.9
Cordova*	19 "	22	22N	13E	10100	3/30	29.3	9.2	7.8	14.2	6	12.6
		AV	Average fo	or d rain	nage	www.replace	9.2	2.2	2.1	7.7		6.9
*On adjacent drainage	inage						20.0				•	







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"